MERIDIAN

DSP7200

Digital Signal Processing Active Loudspeaker System

The concept of the Digital Active DSP Loudspeaker, invented by Meridian over 15 years ago, is today well-proven as by far the most musically and dynamically accurate and effective way to approach sound reproduction. Meridian's DSP7200 takes this technology to a new high.

The DSP7200 features the latest internal electronics and software along with specialised drive units and power amplifiers. DSP7200 is also the first of Meridian's DSP Loudspeaker models to include the company's new SpeakerLink input/output interfacing architecture, featuring balanced drive and RJ45 connectors for simplicity and elegance of installation via CAT-5 cabling.

DSP7200 features a novel low-frequency alignment system which confers the bottom-end extension benefits of porting, but retains the exact timing and coherence previously only associated with 'closed-box' designs.

The result is deep, tight bass and a clarity (enabled by its sophisticated electronics and DSP) that makes you feel you are right there at the original event.

In common with all Meridian's DSP Loudspeakers, the DSP7200's design rests on the pillars of digital signal processing for crossover filtering and all other signal manipulation, and multi-amplified active-speaker topology in which each individual driver is served by a dedicated amplifier channel. The advantages are irrefutable: employing ultra-accurate DSP makes possible crossover characteristics and precision that would be inconceivable for any passive, analogue system, for a level of driver integration that is otherwise unobtainable.

Additionally, individually powering each driver after the crossover system pays dramatic dividends in enhanced dynamic potential, reduced distortion, and idealized time-domain behaviour.

Product Information

3½-way DSP active loudspeaker

Self-contained audio system, each speaker has four custom drivers, four amplifiers, four digital converters, digital crossovers and advanced sound-shaping DSP technology

Unique SpeakerLink digital audio and control I/O interface via RJ45

Curved cabinet featuring advanced laminated damping technology

Black and silver piano lacquer finishes; other colours to order

Controlled by Meridian System Remote Plus (supplied)

Listener control over features including volume, bass, treble tilt, listening axis, time-compensated balance and absolute phase

Removable rear access panel for hidden cable entry

RJ45 input allows RS232 connection for firmware updates, etc using optional cable.

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In addition to the vertical units described here, a horizontal ported design is available, the DSP7200HC, typically designed for use in home theatre applications.

The DSP7200 also benefits from original research at Meridian into digital filtering, featuring a special new upsampling filter with especially impressive characteristics and no pre-echo. The filter is so effective that it can correct problems further up the chain including fixing faults in the original recording. The result: conventional 44.1/48 kHz sampled CDs and DVDs sound astonishingly like high resolution recordings!

The DSP7200 accepts a digital feed directly from a Meridian preamp, CD, DVD player or system controller, accommodating bitstreams up to 96/24, eliminating analogue speaker cabling and its associated losses, coloration, and clutter – while SpeakerLink allows it to be driven by a single CAT5 cable.

A DSP loudspeaker brings unique opportunities for optimization of driver/amplifier/enclosure systems, while giving listeners unprecedented control over music and cinema sound playback. Whether in a two-channel system or as part of a multichannel home-theatre array, the DSP7200 provides precision command of frequency balance, listening axis and time-compensated balance and master volume – all implemented utterly transparently.

The DSP7200's four internal 150-watt amplifiers are balanced-input, high-current designs employed in the flagship DSP8000, with heatsinking on the extruded back panel. Two amps drive a pair of refined 8-inch, long-throw bass units with a new basket design, separately housed in their own optimised enclosure in the base of the speaker system.

Meanwhile the 6-inch midrange unit is the same driver used in the flagship DSP8000, employing a cone made from a uniquely light and stiff combination of polymers to give unparalleled transparency. This and the 1-inch composite-dome tweeter, (the latter deployed with Meridian's 'short-horn' loading), are each driven by their own amplifiers and operate from a second, completely separate enclosure atop the bass/electronics module.

The cabinet is crafted from Meridian's innovative, multi-layered 'sandwich' of selected woods and metal, formed in curved, pressure-laminated panels that produce almost perfectly vibration- and resonance-free enclosures, for unmatched freedom from coloration. The exteriors of these unique cabinets are painstakingly finished in Meridian's trademark gloss graphite, black or silver colours, with the full range of Meridian Select colours available to order.

DSP7200 rear panel showing RJ45 connectors.

Outline Technical Specification

Performance
- Frequency response in-room within 3dB from 30Hz to over 20kHz.
- Maximum output >112dB spl @ 1m on music material.
- Noise less than 15dB spl.
- Overall electronic distortion typically <0.02% at any frequency or level.

Inputs
- 1x phono digital input (S/PDIF)
- 1x balanced digital (AES/EBU) input on RJ45; 32kHz–96kHz sampling rates at up to 24 bit; MHR support. RJ45 input also carries RS232 and trigger.

Outputs
- 1x RJ45 with balanced digital audio and control for a second loudspeaker. Carries infra-red pick up for system automation.

Construction
- '3½-way' acoustic reflex system.
- Digital crossovers at 200Hz and 2.6kHz.
- 2 x 200mm long-throw bass drivers.
- 1 x 160mm polypropylene mid driver.
- 1 x 25mm aluminium-dome tweeter, silver wire, short horn-loaded.
- Gloss black or silver piano-lacquer cabinet, other colours available to order.

Electronics
- FIFO memory buffer input for the lowest possible jitter from almost any source.
- Analogue gain & filtering with proprietary Meridian Class-A discrete amplification.
- Digital & conversion electronics utilise advanced surface-mount techniques and partitioned 6-layer printed-circuit boards.
- 4x 24-bit 128x oversampling D/A converters for maximum audio quality.
- 4x 150W/4Ω power amplifiers – one per driver (2xbass, 1xmid, 1xHF).

Dimensions:
- Vertical version: 1072 (42.25) H (no feet), 350/180 (13.75/7.1) W, 415/217 (16.5/8.5) D [base/top, mm (in)]
- HC version: 295 (11.6) H, 1060.5 (41.75), D 478.25 (18.8) max [mm/(in)]. Measure actual unit before specifying.

Weight:
- 55kg (121 lb) each (vertical version).
- 64kg (141 lb) (horizontal centre version)

Controls
- Rear-panel controls for Power On/Off. MSR+ and RS232

Front display
- Eight-character display w/ system lights

Power
- 20W standby, 920W max